

# SESSION 5: KNOWLEDGE DEVELOPMENT FOR INDUSTRIAL GREEN TECHNOLOGIES

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Advancing Green Technologies through Science-Policy Interface  
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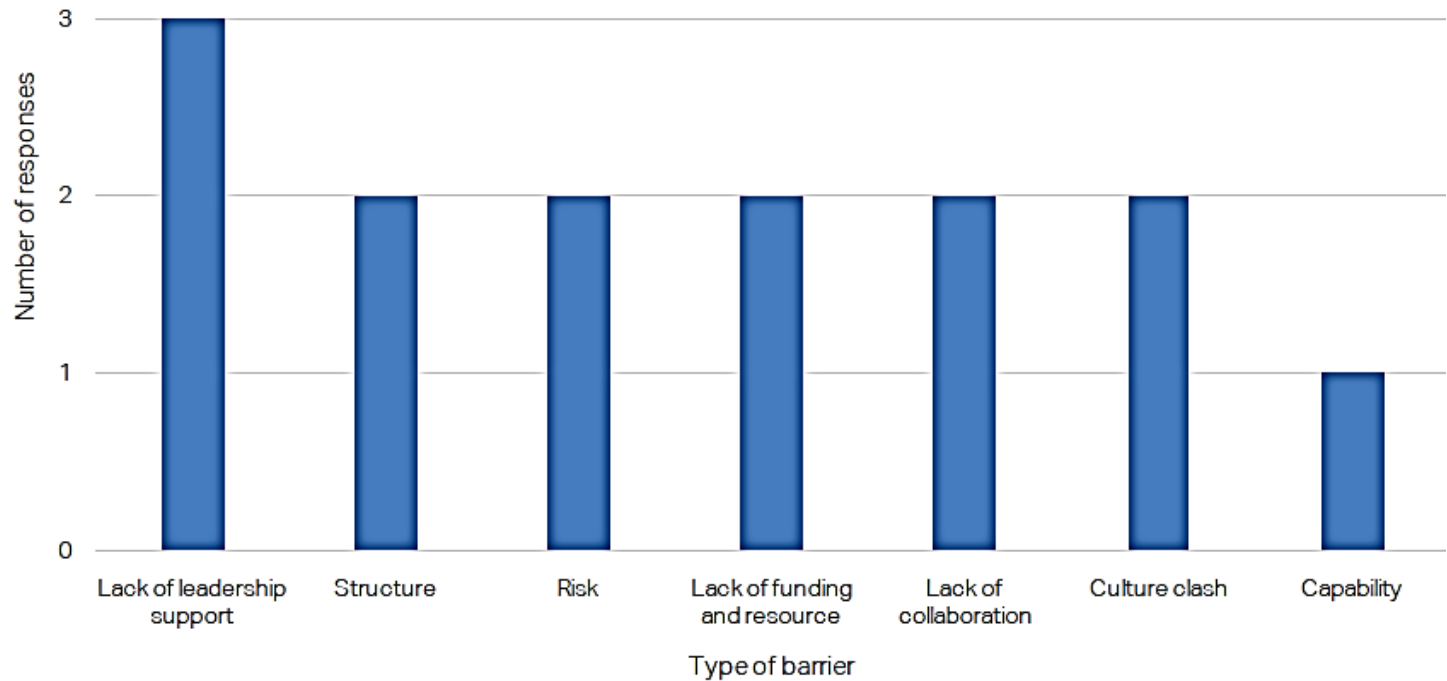
# Bridges and barriers

Absorptive capacity of industry and businesses?

Start-ups vs. long established companies?



# Major barriers to incubation



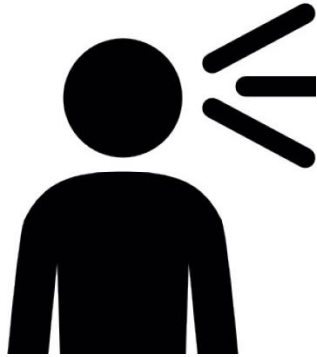
1. Lack of leadership support
2. Structure
3. Risk
4. Lack of funding and resource

5. Lack of collaboration
6. Culture clash
7. Capability

(World Business Council for Sustainable Development)

# Changing attitudes

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Science: Outcomes cannot be anticipated, science is uncertain,

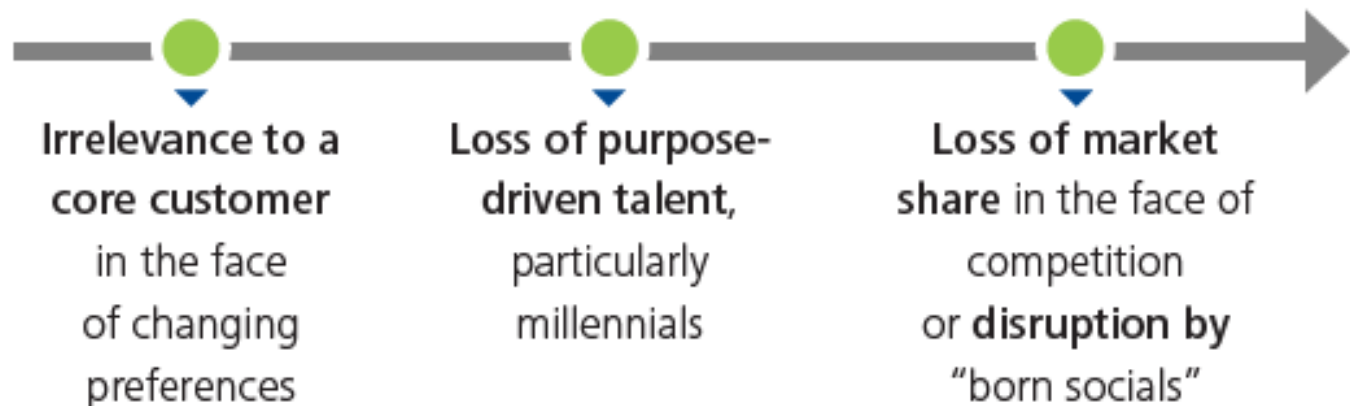


Business: Clear business case, profit, certainty



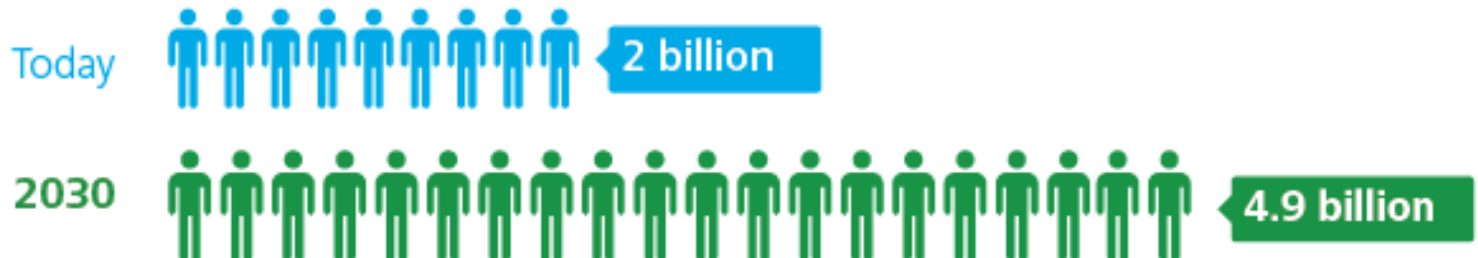
# Competition requires innovation

The cost of inaction may be high...



... and the potential is big.

Example: The global increase in middle income consumers<sup>4</sup>





# 9 things best innovators do

**Clear strategy**

**Focus on people  
(HR)**

**Listen to in-house  
knowledge**

**Use strengths  
across the whole  
business**

**Beyond R&D for  
products**

**Work with the right  
partners**

**Technology  
scouting**

**Dialogue with  
universities and  
research  
institutions**

**Inclusion of academic  
research in labs and  
technical units,  
cooperation  
programmes**

# Example: agriculture in the Arab region

- 83% of water withdrawals for agriculture but spending on agricultural water solutions is small (8% of global water market)

## Technology opportunities

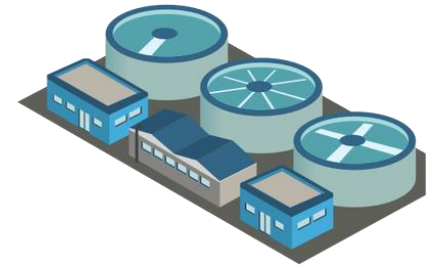
- Smart irrigation saves water, delivers it more efficiently, saves money
- biotechnology, precision agriculture → 20% yield increases

## Barriers to adoption of more efficient irrigation technologies

- Lack of finance
- Education of farmers

Innovative farmers, niche companies with breakthrough technologies and investors backing them will be winners





## Example: water and sanitation

**Technology opportunities:** monitoring, forecasts, organic nutrients and solids treatment, metal and organics removal

### Barriers to adoption of more efficient water technologies

- Technological inertia: large investments and importance of continuity of service
- Community disengagement (sanitation not visible in most countries) and lack of social mobilization

Best practices:

Technological site visits, demonstrations, technology scouting, databases



# Session 5: Knowledge Development for Industrial Green Technologies

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1. How are scientific research institutions and industry connected in countries in the Arab region? What role does your institution play?
2. What are the barriers that prevent industry from testing, using and applying innovative green technologies?
3. What support do the scientists and the industry need to speed up the application of innovation in the industry?  
(i.e. collaboration at early stages, involvement of universities in finding solutions directly at the industry, scientists & industry collaborating on demonstration projects...)
4. How can open science contribute to innovation and what is the role of intellectual property rights?

# THANK YOU!

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